

CLAIMS

1. An automated and robotized platform comprising a battery of miniature reactors, each containing a cell culture, the platform comprising:
 - 5 an external sensor for measuring at least an optical property of each cell culture contained in each miniature reactor;
 - a mobile sensor holder able to receive the external sensor, the sensor holder comprising sensor moving means for moving the external sensor from a miniature reactor to another one and for allowing for the real
 - 10 time measurement of said at least one optical property; and
 - monitoring and processing means for receiving in real time measurements of the optical property from the external sensor and monitoring in real time a movement of the mobile sensor holder.
2. A platform according to claim 1, wherein the external sensor is a
- 15 turbidity sensor comprising an emitting diode and a receiving diode.
3. A platform according to claim 1, further comprising at least a second external sensor arranged on the mobile sensor holder.
4. A platform according to claim 1, wherein the sensor is an absorbency or fluorescence or luminescence or phosphorescence or
- 20 colorimetry sensor or any other sensor measuring an electromagnetic radiation.
5. A platform according to any of claims 1 to 4, wherein the sensor moving means comprise:
 - either at least one mobile carriage arranged on at least one linear
 - 25 rail, a stepper motor, a driving system connecting the motor with the carriage; or
 - one arm or any other system allowing for a circular movement; and
 - monitoring means connected with the motor ensuring the movement of said carriage according to a linear or circular movement.
- 30 6. A platform according to any of claims 1 to 5, further comprising a sampling and injecting system arranged on a mobile support and preferably connected with a moving system, either independent from or integral with the mobile sensor holder.
7. A platform according to any of claims 1 to 6, wherein each
- 35 miniature sensor comprises a system for regulating the temperature.

8. A platform according to claim 7, wherein the system for regulating the temperature is a Peltier effect autonomous regulating system.

9. A method for automatically measuring at least one optical property of cell cultures contained within a miniature reactor battery,
5 comprising the following steps of:

- measuring automatically at least one optical property of a culture contained within one of the miniature reactors via an external sensor;

- moving in a robotized way the external sensor towards another miniature reactor; and

- 10 - measuring automatically at least one optical property of a culture contained within another miniature reactor via the external sensor.

10. A method according to claim 9, further comprising the step of injecting/sampling in a miniature reactor as a function of the measurement value of the optical property.

15 11. A platform according to any of claims 1 to 8 being able to produce cell cultures.

12. A platform according to any of claims 1 to 8 being able to optimize cell culture methods.

20 13. A platform according to claims 11 and/or 12 being able to make the analysis of gene expression mechanisms.

14. A platform according to claim 13, wherein the genes are genes involved in cell adherence mechanisms.

15. A platform according to any of claims 1 to 8 being able to study physical and physicochemical mechanisms.